

# REVIEW RESOURCES

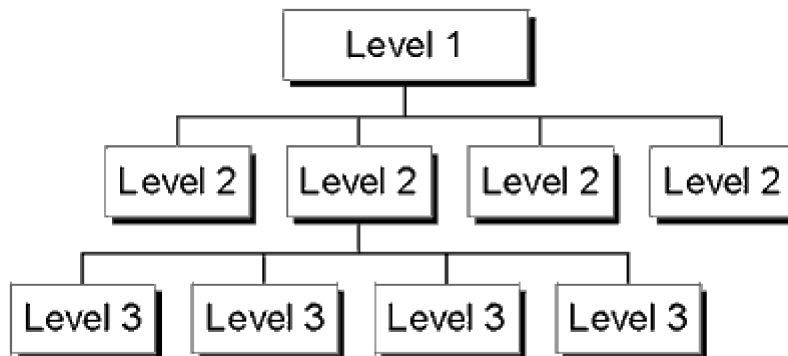
## Lesson 8: Work Breakdown Structure

### What is WBS?

DOD uses a specific format, called a Work Breakdown Structure (WBS), to:

- Break work into product-oriented elements and work processes.
- Allow acquisition personnel to manage risk at levels lower than the overall system (e.g., at the engine part level of an aircraft).

The WBS is a result of the systems engineering process. Because it shows the relationships among the various products being developed, the WBS is often referred to as a "product-oriented family tree hierarchy." WBS is a valuable program management tool that is used throughout all life-cycle phases, and benefits all acquisition disciplines (e.g., program management, contracting, logistics, finance and budgeting).



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### How is WBS Used?

Both contractors and DOD components use WBS to establish a foundation for:

- Developing program and technical plans through the systems engineering process.
- Developing acquisition strategy and contracting documents.
- Establishing schedules.
- Estimating costs and formulating budgets.
- Planning logistics.
- Tracking progress and accomplishments.
- Reporting progress status and analyzing problems.

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### Using the WBS: Managing Costs

A WBS can be used to help make program management decisions. For example, if the costs of an element in the WBS are too high, the WBS can be used to identify possible tradeoffs. Identifying and analyzing tradeoffs can help the manager decide how best to stay within budget.

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### Using the WBS: Managing Risks

A WBS can be used to identify issues and concerns. By identifying all possible issues and concerns, Program Managers can reduce risk.

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### Using the WBS: Assigning Work

The WBS is also useful for determining an acquisition strategy and/or assigning work. The information contained in the WBS can help a Program Manager develop a statement of work that describes what products or services are to be delivered.

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### Using the WBS: Scheduling and Tracking

A schedule of key events can be developed for each element in the WBS. Completion of these key events is then tracked.

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### Using the WBS: Summary

A WBS is a valuable management tool that:

- Is used throughout all life-cycle phases.
- Manages risk by providing insight into technical aspects of program management.
- Benefits all acquisition disciplines (e.g., program management, contracting, logistics, finance and budgeting, etc.)

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### Program and Contract WBSs

The two types of WBSs are:

- Program Work Breakdown Structures
- Contract Work Breakdown Structures

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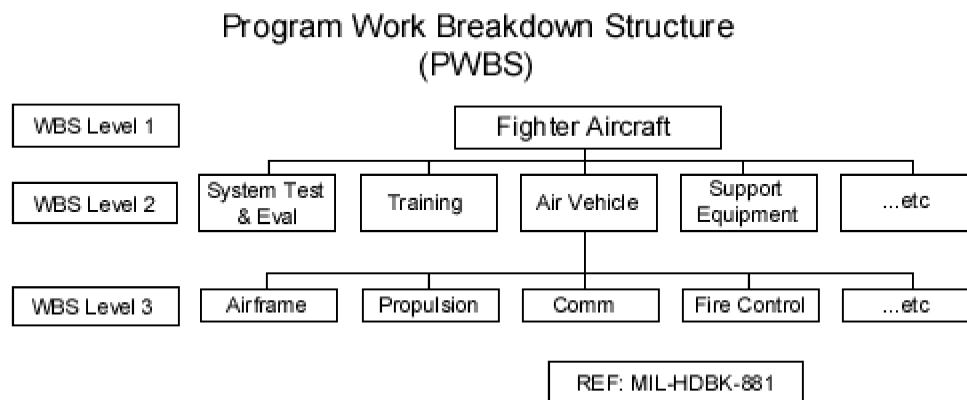
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### Program WBS

A Program WBS is defined as "the work breakdown that covers the acquisition of a specific defense materiel item and is related to contractual effort." A Program WBS is:

- Tailored to each specific program.
- Prepared and maintained by the Government.
- Provides a basis for developing the Contract WBS.



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### Program WBS Levels

Typically, a Program WBS consists of the upper three levels.

WBS Level 1:	The entire defense materiel item.
WBS Level 2:	Major elements of the defense materiel item, which are subordinate to Level 1.
WBS Level 3:	Elements subordinate to Level 2 elements.

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### Program WBS Requirement

DOD Regulation 5000.2-R states that:

"A Program Work Breakdown Structure (WBS) shall be established that provides a framework for program and technical planning, cost estimating, resource allocations, performance measurements, and status reporting." (Para 4.4.1)

DOD Regulation 5000.2-R requires that WBS be used for estimating ACAT I program life-cycle costs.

"The life-cycle cost estimates shall be explicitly based on the program objectives, operational requirements, contract specifications for the system, and, for ACAT I

programs, a program DOD work breakdown structure (WBS) or, for ACAT IA programs, a life-cycle cost and benefit element structure agreed upon by the IPT." (Para 3.5.1)

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## Military Handbook 881

Program offices tailor a Program WBS for each program using the guidance in Military Handbook 881. Work Breakdown Structures can be defined by using the following defense materiel items found in this Handbook:

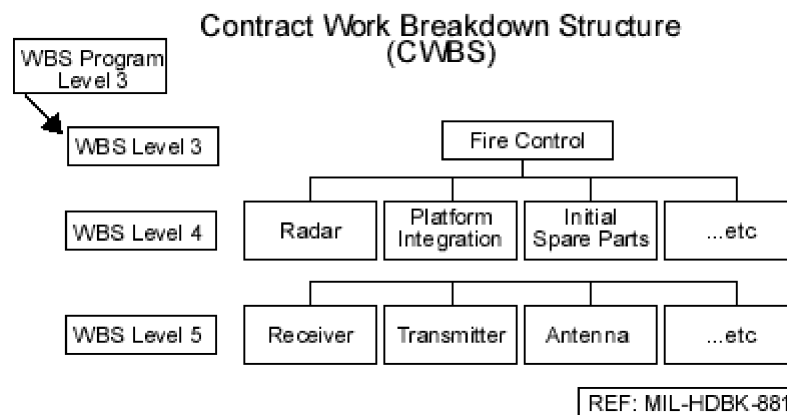
- Aircraft Systems
- Electronic and Automated Software Systems
- Missile Systems
- Ordnance Systems
- Ship Systems
- Space Systems
- Surface Vehicle Systems

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## Contract WBS

A Contract WBS:

- Extends the Program WBS to a lower level in order to provide management and cost information to the Government.
- Includes all the elements for products (e.g., hardware, software, data, or services) that are the responsibility of the contractor.
- Must be consistent with the Program WBS.


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## Military Handbook 881 and Contract WBS

Contractors may use Military Handbook 881 in extending the Program WBS for developing a

complete WBS. Military Handbook 881 shall be cited in solicitations and contracts as "for guidance only."

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### **Contract WBS: Contractor's Responsibility**

Contractors may extend the work breakdown structure to whatever level they feel is necessary to manage the program. Contractors also use the Contract WBS to define work packages. Work packages are:

- Discrete portions of the project that can be charged to a single organization.
- Building blocks for program management and cost reporting.

Remember that a Contract WBS:

- Is prepared and maintained by each contractor working on different portions of the program.
- Includes the number of levels thought sufficient by the contractor to manage the program.
- Must be updated if changes are made to the Program WBS.

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